

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10763 (1983): Frozen Minced Fish Meat [FAD 12: Fish and Fisheries Products]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



Indian Standard
SPECIFICATION FOR
FROZEN MINCED FISH MEAT

UDC 664.951.037.5:636.514.5



© Copyright 1984

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR FROZEN MINCED FISH MEAT

Fish and Fisheries Products Sectional Committee, AFDC 27

Chairman

Representing

DR C. C. PANDURANGARAO

Central Institute of Fisheries Technology (ICAR),
Cochin

Members

SHRI M. R. NAIR (<i>Alternate to</i> Dr C. C. Pandurangarao)	
ASSISTANT DIRECTOR OF FISHERIES	Directorate of Fisheries, Government of Tamil Nadu, Madras
SHRI D. S. CHADHA	Central Committee for Food Standards (Ministry of Health and Family Welfare), New Delhi
SHRIMATI DEBI MUKHERJEE (<i>Alternate</i>)	
SHRI K. M. CHANDRASEKHAR	Directorate of Fisheries, Government of Kerala, Trivandrum
SHRI N. ARAVINDAKSHAN (<i>Alternate</i>)	
COMMISSIONER OF FISHERIES	Commissioner of Fisheries, Government of Gujarat, Ahmadabad
SHRI OM P. DHAMIJA	Export Inspection Council of India, New Delhi
SHRI M. K. UNNIKRISHNAN (<i>Alternate</i>)	
DIRECTOR	Marine Products Export Development Authority, Cochin
DR V. D. RAMAMURTHY (<i>Alternate</i>)	
SHRI S. AMBROSE FERNANDO	Fish Exporters Chambers, Tuticorin
DR B. K. NANDI	Technical Standardization Committee (Food Standards) (Ministry of Agriculture), New Delhi
DR KASTURI UMESH PAI	Mukka Oil & Food Industries, Mangalore
SHRI A. N. RAO	Directorate General of Technical Development, New Delhi
SHRI S. N. PANDEY (<i>Alternate</i>)	
SHRI G. S. SHUKLA	Directorate of Marketing & Inspection (Ministry of Rural Development), Faridabad
DR S. JAYARAMAN (<i>Alternate</i>)	
SHRI N. V. SRIPATHY	Central Food Technological Research Institute (CSIR), Mysore

(Continued on page 2)

© Copyright 1984

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(Continued from page 1)

Members

BRIG R. N. VERMA

LT-COL P. J. CHERIAN (*Alternate*)

SHRI T. PURNANANDAM,
Director (Agri & Food)

Representing

Food Inspection Organization, QMG's Branch
(Army Headquarters), New Delhi

Director General, ISI (*Ex-officio Member*)

Secretary

SHRI LAJINDER SINGH

Deputy Director (Agri & Food), ISI

Frozen Fish Products Subcommittee, AFDC 27:2

Convener

SHRI OM P. DHAMIJA

Export Inspection Council of India, New Delhi

Members

SHRI C. CHERIAN
COMMISSIONER OF FISHERIES

Chemmens (Regd), Cochin
Commissioner of Fisheries, Government of Gujarat,
Ahmadabad

SHRI I. B. VAIDYA (*Alternate*)
DIRECTOR

Marine Products Export Development Authority,
Cochin

DR V. D. RAMAMURTHY (*Alternate*)
MANAGER
SHRI M. R. NAIR

Directorate of Fisheries, Government of Maharashtra
Central Institute of Fisheries Technology (ICAR),
Ernakulam

SHRI P. V. PRABHU (*Alternate*)
DR R. SATHIARAJAN
SHRI GEORGE EDWARD SAMUAL
(*Alternate*)

Integrated Fisheries Project, Cochin

SENIOR MANAGER

Gujarat Fisheries Central Co-operative Association
Ltd, Ahmadabad

Indian Standard

SPECIFICATION FOR FROZEN MINCED FISH MEAT

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 December 1983, after the draft finalized by the Fish and Fisheries Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 With the increased catch of inexpensive varieties of fish, their utilization deserves utmost attention. Possibilities exist of separating out meat from these fish and freezing it in consumer packs of various mass, so that it could form as a base material for various preparations. This standard is being formulated to provide guidelines for quality control to the trade and to meet the consumer demand for wholesome fish muscle.

0.3 In the preparation of this standard, due consideration has been given to the provisions of the *Prevention of Food Adulteration Act*, 1954 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and method of sampling and test for frozen minced fish meat.

2. REQUIREMENTS

2.1 Hygienic Requirements — The material shall be prepared and processed under hygienic conditions, only in premises maintained in a thoroughly clean and hygienic manner [see IS:4303 (Part 1)-1975†] and duly approved or licensed by the authorities concerned.

*Rules for rounding off numerical values (*revised*).

†Code of hygienic conditions for fish industry: Part 1 Pre-processing stage (*first revision*).

2.2 Raw Material Requirements

2.2.1 Clean, wholesome and fresh fish which do not show any signs of degradation and spoilage shall be used.

2.2.2 The fish shall be gutted, the tail, entrails, bones, tips, skin, head and other non-edible portion shall be removed and eviscerated. Fish shall be washed thoroughly with clean potable water to remove the blood, etc. Variety of fish used shall be specified.

2.2.3 The fish shall be properly iced and maintained at a temperature not exceeding 5°C till transported to the freezing factory.

2.3 Processing Requirements

2.3.1 Fresh fish, shall be washed free of all foreign matter preferably with chilled potable water (5°C) having 5 mg/kg (ppm) of available chlorine and meat separated from fish in wholesome condition.

2.3.2 The material shall be quick frozen at a temperature not exceeding —30°C in polyethylene wrappers containing 250 g, 500 g, 1 kg or 2 kg of material and packed in waxed cartons in the minimum possible time.

2.3.3 The quick frozen material shall be stored in the cold storage at a temperature not less than —23°C.

2.4 Requirements for the Finished Product

2.4.1 The frozen minced fish meat, on thawing, be clean and shall be sound, undamaged and free from defects. Deterioration, such as dehydration, oxidative rancidity and adverse changes in the texture shall not be present. The product shall be free from foreign matter and finishing agents.

2.4.2 The product shall also conform to the requirements prescribed in Table 1.

2.4.3 Microbiological Requirements — The microbiological counts of the frozen minced fish meat shall not exceed the limits given in Table 2.

3. PACKING AND MARKING

3.1 Packing — The frozen material packed in accordance with 2.3.2 shall be further packed in containers which may withstand the stress and strain of transportation and can prevent deterioration during storage. A layer of polyethylene shall be used between the material and individual packs.

TABLE 1 REQUIREMENTS FOR FROZEN MINCED FISH MEAT

(Clause 2.4.2)

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO APPENDIX
(1)	(2)	(3)	(4)
i)	Colour of minced fish meat	Characteristic of the species	—
ii)	Texture of the minced meat	Characteristic of the species	—
iii)	Odour	Characteristic of the species, free from rancid, putrid of foreign odour	—
iv)	Flavour	Characteristic of the species, sweetish and pleasant, free from spoilt or foreign flavour	—
v)	Bone content, percent by mass, <i>Max</i>	1.0	A

TABLE 2 MICROBIOLOGICAL LIMITS FOR FROZEN MINCED FISH MEAT

(Clause 2.4.3)

SL No.	CHARACTERISTIC	LIMIT	METHOD OF TEST, REF TO
(1)	(2)	(3)	(4)
i)	Total bacterial count, per g of fish meat, <i>Max</i>	100 000	IS: 5402-1969*
ii)	<i>Escherichia coli</i> , per g of fish meat, <i>Max</i>	20	IS: 5887 (Part 1)-1976†
iii)	<i>Salmonella</i>	Absent	IS: 5887 (Part 2)-1976‡
iv)	Coagulase positive <i>staphylococci</i> , per g of fish meat, <i>Max</i>	100	IS: 5887 (Part 3)-1976§

*Method for plate count of bacteria in foodstuffs.

†Methods for detection of bacteria responsible for food poisoning: Part 1 Isolation, identification and enumeration of *Escherichia coli* (first revision).‡Methods for detection of bacteria responsible for food poisoning: Part 2 Isolation, identification and enumeration of *Staphylococcus aureus* and *Faecal streptococci* (first revision).§Methods for detection of bacteria responsible for food poisoning: Part 3 Isolation and identification of *Salmonella* and *Shigella* (first revision).

3.2 Marking — Each frozen wrapper containing material shall be marked or labelled with the following particulars in such a way that printing ink does not come in direct contact with the material:

- a) Name of the fish (variety of fish);
- b) Name and address of the processor;
- c) Lot number in code;
- d) Gross mass and net mass;
- e) Date of packing (in code); and
- f) Other requirements in accordance with the *Weights and Measures (Packaged Commodity) Rules, 1977 and Prevention of Food Adulteration Act* and Rules framed thereunder.

3.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING

4.1 The method of drawing representative samples of the material for carrying out tests and the criteria for conformity shall be according to the method prescribed in Appendix B.

5. TESTS

5.1 Test shall be carried out by appropriate method as referred to in col 4 of Tables 1 and 2.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS: 1070-1977*) shall be employed in test.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which effect the result of analysis.

*Specification for water for general laboratory use (*second revision*).

A P P E N D I X A

[*Table 1, Item (v)*]

DETERMINATION OF BONE CONTENT IN MINCED FROZEN FISH MEAT

A-0. PRINCIPLE

A-0.1 Urea solubilize protein. In addition aqueous alkaline solution is used to dissolve flesh.

A-1. PROCEDURE

A-1.1 Add 100 g minced fish meat to 2 000 ml of 3 M urea containing 0.02 M sodium hydroxide, stir the suspension gently overnight (16 hours) at temperature 30-40°C by magnetic stirrer (use of infra-red lamps are indicated). Recover the bones by simple pouring-off the bone urea solution. Alternatively, test sieve of 420 micron can also be used. Wash these bones twice or thrice with distilled water. Dry at 105-110°C till the mass is constant. Calculate the percentage of the bones in the sample.

A P P E N D I X B

(*Clause 4.1*)

SAMPLING OF FROZEN MINCED FISH MEAT

B-1. GENERAL REQUIREMENTS

B-1.1 The sampling instrument shall be clean, dry and sterile.

B-1.2 The samples shall be protected against adventitious contamination.

B-1.3 Samples shall be stored in such a manner that there is no deterioration of the frozen material.

B-2. SCALE OF SAMPLING

B-2.1 Lot — All the containers in a single consignment of the material packed on the same day shall constitute a lot. If the consignment is declared to consist of material packed on different dates, the material shall be separated date-wise and the containers of the same grade shall be grouped to constitute separate lots.

B-2.1.1 Samples shall be tested from each lot for ascertaining conformity of the material to the requirements of this specification.

B-2.2 The number of containers to be selected from a lot shall depend on the size of the lot and shall be in accordance with col 1 and 2 of Table 3.

TABLE 3 SELECTION OF CONTAINERS

NO. OF CONTAINERS IN THE LOT	NO. OF CONTAINERS TO BE SELECTED
(1)	(2)
2 to 15	2
16 to 40	3
41 to 65	5
66 to 110	7
111 to 180	8
181 to 300	9
301 and above	10

B-2.3 The containers shall be selected at random (*see* IS:4905-1968*) from the different portions of the lot so as to get a representative sample.

B-2.4 From each of the selected containers, in order to select at random the required number of packs, Table 3 may be applied here. Column 1 may be taken to represent the number of packs in a containers and col 2 may be taken to represent the number of packs to be selected.

B-2.5 In addition to the packs selected from each selected container (*see* B-2.4), one pack shall be selected at random from the container for microbiological requirements.

B-3. NUMBER OF TESTS

B-3.1 Each of the packs selected in B-2.4 shall be tested for all the requirements of this specification except the microbiological requirements.

B-3.2 Each of the pack selected in B-2.5 shall be tested for microbiological requirements.

*Methods for random sampling.

B-4. CRITERIA FOR CONFORMITY

B-4.1 The lot shall be declared to be in conformity if all the requirements of this specification when **B-4.2** and **B-4.3** are satisfied.

B-4.2 The lot shall be considered to be in conformity if all the requirements of this specification except the microbiological requirements of all the pack selected in **B-2.4** satisfy the corresponding requirements.

B-4.3 The lot shall be considered to be in conformity with respect to microbiological requirements when all the pack selected in **B-3.2** satisfy the relevant requirement specified.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition</i>
Force	newton	N	1 N = 1 kg. m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²